



# Brunswick County Code Administration

## Fire Alarm Requirements

Electronic (PDF) Construction Documents shall be submitted and approved by the Fire Marshal's Office prior to any installation per section 901.2 & 907.1.1 NC Fire Code.

Electronic Construction Documents (PDF) shall include additional information may be required prior to the approval of the submitted plans:

- A floor plan which indicates the use of all rooms.
- Locations of alarm-initiating and notification appliances.
- Alarm control and trouble signaling equipment.
- Annunciation.
- Power connections.
- Battery calculations.
- Conductor type and sizes.
- Voltage drop calculations.
- Manufactures, model numbers and listing information for equipment, devices and materials.
- Details of ceiling height and construction.
- The interface of fire safety control functions.

The above information is not all-inclusive.

### Applies to all sheets

- All sheets to be same size ("C" 24"x 36" Preferred)
- Scale 1/8" only
- All sheets to be same scale
- Drawing number, revision & date.
- Name and Address of Project.
- Name and Address of Installing Contractor.
- Reviewed by Section on Title Block Showing NICET Certification Sub-Field, Level, Number and expiry date if required.
- Type of system.
- Show Compass Points.
- Sheet Title
- Key Plan for Building Sections
- Clear and Legible Plans suitable for Photocopying.

### Drawings:

#### First Sheet (Title Sheet)

- Name and Address of Building
- Owner Name and Telephone Number of Installation Company Contact person
- Contractors License Classification and Number
- Name and Address of General Contractor (if Applicable)
- Name and Address of Electrical Contractor (if Applicable)
- Square Footage of each building and Total
- Building Occupancy Type
- Type of System: - Fire Alarm, Conventional Hardwired, Wireless, Addressable, Analog Addressable, Class "A", Class "B"
- List applicable Codes and Standards with Editions used in the system design Bldg Code, Fire Code, NFPA 72, NFPA 70, UMC, Elev.,
- All Approving Agencies, Name & telephone Number
- Sequence of operation
- Identify if wiring is enclosed in conduit, open wiring, power limited or non-power limited.
- Contractor Notes with reference to this project
- Fire Department notes with reference to this project
- Name and Location of monitoring company
- Type of Notification. (Temporal, Steady, Coded etc.)
- Scope of Work
- Box for AHJ Approval Stamp
- Wiring Legend
- Symbol List with Manufacturer, Part Number and backbox.
- If insufficient space for Wiring Legend and Symbol List on Title Sheet, insert an additional sheet.

#### Site Plan Sheet

- Scale of Site Plan
- Scale Bar Graph
- Main Control Panel and all Sub Control Panel Locations
- Fire Alarm Annunciators
- Location of As Built Drawing Cabinet
- Location of Lock Box

Submit an online application at <http://www.brunswickcountync.gov/code-administration/permits/>

## **Floor Plan Sheets**

- Building Floor Plan
- Sheet Title
- Scale of Sheet
- Scale Bar Graph
- Location of All Doors Windows walls Exterior and Interior
- Location of all obstructions exceeding 6ft above FFL.
- Intended use of each room ( e.g. Storage, Classroom, Restroom, Vestibule)
- Location of all Air Supply and Return registers
- Ceiling Heights, Ceiling Details and configuration may be shown on an additional sheet. With Reference Key
- Full Height Cross Section of building. May be shown on an additional sheet. With reference key.
- Mounting Heights of devices
- Location of Main Fire Alarm Control Panel
- Show location and source of Emergency Standby Power.
- Location of all Annunciator panels, Sub Fire Alarm Panels, Booster Panels
- Location of all Power sources, Panel Numbers and breaker Numbers for each piece of equipment
- Show location of all Fire Alarm Detection and Notification devices. Along with Temperature ratings and Candela Ratings if applicable
- Show location of all ancillary devices, i.e. Door Holders, Door closers, Gas shut off, Fan shutdown, Smoke dampers, Shunt trips, etc.
- Show location of all Fire Sprinkler risers, Waterflow switches and tamper switches.
- Show locations of all fire pumps and fire pump controllers.
- Show all Access Doors and signage for Duct Detector Access.
- Show all remote indicators for hidden devices.
- Show all zoning if a conventional fire alarm system.
- Show wiring type, size, number of conductors and approx. wiring layout
- Show all Rated Walls

## **Additional sheets as required**

- Show all areas of the building Show all floors and all configurations.
- Cross Sections Ceiling Details.
- Device Wiring Details
- Device Spacing Typical
- ADA Mounting Heights, Show Detail

## **Details Sheet**

- Circuit Wiring Diagram
- Typical device & Ancillary Device wiring
- Riser Diagram Sheet

## **Voltage Drop Calculations Sheets**

- Voltage Drop calculations for each Notification Appliance Circuit showing wire size Circuit Current and Voltage drop.

## **Stand-by Battery Calculation Sheets**

- Standby Battery Calculations for each Control Panel, Sub Panel, Power Booster, Central Station Transmitter, Power supply.

**All of the above sheets are to be submitted as a complete set of plans for approval.  
Approved plans must be kept on site during construction.**

### **Specification Package**

TABLE OF CONTENTS (each section shall have tabs and be separated accordingly. Include table of contents.)

1. Fire Alarm Control Panels, Power Supplies and Annunciators
2. Detection Devices
3. Audio/Visual Devices
4. System Components, Modules and Relays
5. Battery Calculations and cut sheets (calcs shall also be on plans)
6. Voltage Calculations (shall also be on plans)
7. Compatibility Listings (matrix, table, or info showing device compatibility)
8. Operating Instructions for entire System (This will include a copy of what will be posted adjacent to FACP in cabinet)
9. Manufacturers Inspections Instructions – NFPA Chapter 7
10. NICET Certificate (when required or if prepared by NICET)

### **As-Built Drawing Cabinet to be provided (907.8.3 NC Fire Code)**

An AS BUILT Drawing Cabinet shall be installed at each project with a new Fire Alarm System. It shall be located where acceptable to the Division of Safety & Fire Prevention. The cabinet shall be keyed the same as the alarm panel.

The cabinet shall contain the following:

Complete set of As Built Drawings

A copy of each Permit

A copy of the Fire Marshal Inspection Report

A copy of the original test printout

A hard copy print out of the system configuration if a programmable system

A copy of each maintenance inspection report

Operating Instructions

A copy of the equipment submittals.

Voltage Drop Calculations

Battery Calculations

Any keys required for the system.

**Questions or additional information contact:**

**Andrew Thompson, Fire Marshal**

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**Email: [Fire.Marshall@brunswickcountync.gov](mailto:Fire.Marshall@brunswickcountync.gov)**